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OCCUPATIONAL SAFETY AND HEALTH SUBSCRIPTION SERVICE

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VOLUME I—GENERAL INDUSTRY STANDARDS AND INTERPRETATIONS

CHANGE 28—NOVEMBER 15, 1982

OSHA 2077

INTRODUCTION

This change incorporates changes published in the Federal Register and certain editorial corrections:

INSTRUCTIONS

1. Substitute the attached pages as indicated in the following table:

REMOVE EXISTING PAGE	*INSERT CHANGE PAGE*
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2. Enter a record of this change on page i.
3. Retain this cover sheet as a record of the contents of this change.

General Industry Standards and Interpretations

July, 1977

Change 28, November 15, 1982

U.S. Department of Labor
Raymond J. Donovan, Secretary
Occupational Safety and Health Administration
Thorne Auchter, Assistant Secretary

Volume 1 OSHA 2077

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AUTHORITY: The provisions of this Part 1910 issued under secs. 6(a), 8(g), 84 Stat. 1593, 1598; 29 U.S.C. 655, 657.

trically interconnected. Where the metallic floorplate on which the container stands while filling is electrically connected to the fill stem or where the fill stem is bonded to the container during filling operations by means of a bond wire, the provisions of this section shall be deemed to have been complied with.

(4) Wharves.

(i) Definition, application. The term wharf shall mean any wharf, pier, bulkhead, or other structure over or contiguous to navigable water used in conjunction with a bulk plant, the primary function of which is the transfer of flammable or combustible liquid cargo in bulk between the bulk plant and any tank vessel, ship, barge, lighter boat, or other mobile floating craft; and this subparagraph shall apply to all such installations except Marine Service Stations as covered in paragraph (g) of this section.

(ii) Package cargo. Revoked

(iii) Location. Revoked

(iv) Design and construction. Substructure and deck shall be substantially designed for the use intended. Deck may employ any material which will afford the desired combination of flexibility, resistance to shock, durability, strength, and fire resistance. Heavy timber construction is acceptable.

(v) Tanks. Revoked

(vi) Pumps. Loading pumps capable of building up pressures in excess of the safe working pressure of cargo hose or loading arms shall be provided with bypasses, relief valves, or other arrangement to protect the loading facilities against excessive pressure. Relief devices shall be tested at not more than yearly intervals to determine that they function satisfactorily at the pressure at which they are set.

(vii) Hoses and couplings. All pressure hoses and couplings shall be inspected at intervals appropriate to the service. The hose and couplings shall be tested with the hose extended and using the "inservice maximum operating pressures." Any hose showing material deteriorations, signs of leakage, or weakness in its carcass or at the couplings shall be withdrawn from service and repaired or discarded.

(viii) Piping and fittings. Piping, valves, and fittings shall be in accordance with paragraph (c) of this section, with the following exceptions and additions:

(a) Flexibility of piping shall be assured by appropriate layout and arrangement of piping supports so that motion of the wharf structure resulting from wave action, currents, tides, or the mooring of vessels will not subject the pipe to repeated strain beyond the elastic limit.

(b) Pipe joints depending upon the friction characteristics of combustible materials or grooving of pipe ends for mechanical continuity of piping shall not be used.

(c) Swivel joints may be used in piping to which hoses are connected, and for articulated swivel-joint transfer systems, provided that the design is such that the mechanical strength of the joint will not be impaired if the packing

material should fail, as by exposure to fire.

(d) Piping systems shall contain a sufficient number of valves to operate the system properly and to control the flow of liquid in normal operation and in the event of physical damage.

(e) In addition to the requirements of subdivision (*d*) of this subdivision, each line conveying flammable liquids leading to a wharf shall be provided with a readily accessible block valve located on shore near the approach to the wharf and outside of any diked area. Where more than one line is involved, the valves shall be grouped in one location.

(f) Means of easy access shall be provided for cargo line valves located below the wharf deck.

(g) Pipelines on flammable or combustible liquids wharves shall be adequately bonded and grounded. If excessive stray currents are encountered, insulating joints shall be installed. Bonding and grounding connections on all pipelines shall be located on wharf-side of hose-riser insulating flanges, if used, and shall be accessible for inspection.

(h) Hose or articulated swivel-joint pipe connections used for cargo transfer shall be capable of accommodating the combined effects of change in draft and maximum tidal range, and mooring lines shall be kept adjusted to prevent the surge of the vessel from placing stress on the cargo transfer system.

(i) Hose shall be supported so as to avoid kinking and damage from chafing.

(ix) Fire protection. Suitable portable fire extinguishers with a rating of not less than 12–BC shall be located within 75 feet of those portions of the facility where fires are likely to occur, such as hose connections, pumps, and separator tanks.

(a) Where piped water is available, ready-connected fire hose in size appropriate for the water supply shall be provided so that manifolds where connections are made and broken can be reached by at least one hose stream.

(b) Material shall not be placed on wharves in such a manner as to obstruct access to firefighting equipment, or important pipeline control valves.

(c) Where the wharf is accessible to vehicle traffic, an unobstructed roadway to the shore end of the wharf shall be maintained for access of firefighting apparatus.

(x) Operations control. Loading or discharging shall not commence until the wharf superintendent and officer in charge of the tank vessel agree that the tank vessel is properly moored and all connections are properly made. Mechanical work shall not be performed on the wharf during cargo transfer, except under special authorization based on a review of the area involved, methods to be employed, and precautions necessary.

(5) Electrical equipment.

(i) Application. This subparagraph shall apply to areas where Class I liquids are stored or handled. For areas where Class II or Class III liquids only are stored or handled, the electrical equipment may be installed in accordance with the provisions of subpart S of this part, for ordinary locations.

(ii) Conformance. All electrical equipment and wiring shall be of a type specified by and shall be installed in accordance with subpart S of this part.

(iii) Classification. So far as it applies Table H–18 shall be used to delineate and classify hazardous areas for the purpose of installation of electrical equipment under normal circumstances. In Table H–18 a classified area shall not extend beyond an unpierced wall, roof, or other solid partition. The area classifications listed shall be based on the premise that the installation meets the applicable requirements of this section in all respects.

(b) Definitions.

As used in this section, the word "sign" refers to a surface on which letters or other markings appear, prepared for the warning of, or safety instructions of, industrial workers or members of the public who may be exposed to hazards. Excluded from this definition, however, are news releases, displays commonly known as safety posters, and bulletins used for employee education.

(c) Classification of signs according to use.

(1) Danger signs.

(i) Danger signs should be used only where an immediate hazard exists. There shall be no variation in the type of design of signs posted to warn of specific dangers and radiation hazards.

(ii) All employees shall be instructed that danger signs indicate immediate danger and that special precautions are necessary.

(2) Caution signs.

(i) Caution signs shall be used only to warn against potential hazards or to caution against unsafe practices.

(ii) All employees shall be instructed that caution signs indicate a possible hazard against which proper precaution should be taken.

(3) Safety instruction signs. Safety instruction signs shall be used where there is a need for general instructions and suggestions relative to safety measures.

(d) Sign design

(1) Design features. All signs shall be furnished with rounded or blunt corners and shall be free from sharp edges, burrs, splinters, or other sharp projections. The ends or heads of bolts or other fastening devices shall be located in such a way that they do not constitute a hazard.

(2) Danger signs.

(i) The colors red, black, and white shall be those of opaque glossy samples as specified in Table 1 of Fundamental Specification of Safety Colors for CIE Standard Source "C", American National Standard Z53.1–1967.

(ii) Revoked

(3) Radiation warning signs. Revoked

(4) Caution signs.

(i) Standard color of the background shall be yellow; and the panel, black with yellow letters. Any letters used against the yellow background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 of American National Standard Z53.1–1967.

(5) Exit signs. Revoked

(6) Safety instruction signs.

(i) Standard color of the background shall be white; and the panel, green with white letters. Any letters used against the white background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 of American National Standard, Z53.1–1967.

(7) Directional signs. Revoked

(8) In-Plant traffic signs. Revoked

(9) Informational signs. Revoked

(10) Slow-moving vehicle emblem. This emblem (see Fig. J—7) consists of a fluorescent yellow-orange triangle with a dark red reflective border. The yellow-orange fluorescent triangle is a highly visible color for daylight exposure. The reflective border defines the shape of the fluorescent color in daylight and creates a hollow red triangle in the path of motor vehicle headlights at night. The

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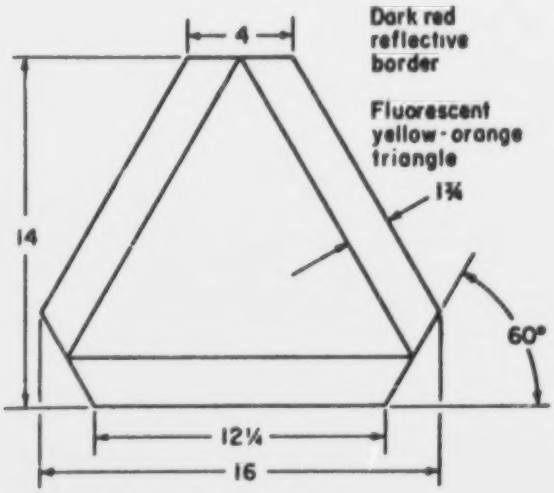
emblem is intended as a unique identification for, and it shall be used only on, vehicles which by design move slowly (25 m.p.h. or less) on the public roads. The emblem is not a clearance marker for wide machinery nor is it intended to replace required lighting or marking of slow-moving vehicles. Neither the color film pattern and its dimensions nor the backing shall be altered to permit use of advertising or other markings. The material, location, mounting, etc., of the emblem shall be in accordance with the American Society of Agricultural Engineers Emblem for Identifying Slow-Moving Vehicles, ASAE R276, 1967, or ASAE S276.2 (ANSI B114.1–1971).



NOTE: All dimensions are in inches.

Fig. J-7
Slow-Moving Vehicle Emblem

(e) Sign wordings.

(1) Examples of wordings. Revoked

(2) Nature of wording. The wording of any sign should be easily read and concise. The sign should contain sufficient information to be easily understood. The wording should make a positive, rather than negative suggestion and should be accurate in fact.

(3) Danger signs. Revoked

(4) Biological hazard signs. The biological hazard warning shall be used to signify the actual or potential presence of a biohazard and to identify equipment, containers, rooms, materials, experimental animals, or combinations thereof, which contain, or are contaminated with, viable hazardous agents. For the purpose of this subparagraph the term "biological hazard," or "biohazard," shall include only those infectious agents presenting a risk or potential risk to the well-being of man.

The symbol design shall be a fluorescent orange or orange-red color. Background color is optional as long as there is sufficient contrast for the symbol to be clearly defined. Appropriate wording may be used in association with the symbol to indicate the nature or identity of the hazard, name of individual responsible for its control, precautionary information, etc., but never should this information be superimposed on the symbol.

(f) Accident prevention tags.

(1) Scope and purpose.

(i) The tags are a temporary means of warning all concerned of a hazardous condition, defective equipment, radiation hazards, etc. The tags are not to be considered as a complete warning method, but should be used until a positive means can be employed to eliminate the hazard; for example, a "Do Not Start" tag on power equipment shall be used for a few moments or a very short time until the switch in the system can be locked out; a "Defective Equipment" tag shall be placed on a damaged ladder and immediate arrangements made for the ladder to be taken out of service and sent to the repair shop.

(ii) The purpose of this paragraph is to establish a set of specifications for tags based on experience and previous use. The tags are to be used in industry, mercantile establishments, or wherever such tags can be utilized to help prevent accidental injury to personnel

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(3) Each tenoning machine shall have all cutting heads, and saws if used, covered by metal guards. These guards shall cover at least the unused part of the periphery of the cutting head. If such a guard is constructed of sheet metal, the material used shall be not less than one-sixteenth inch in thickness, and if cast iron is used, it shall be not less than three-sixteenths inch in thickness.

(4) Where an exhaust system is used, the guard shall form part or all of the exhaust hood and shall be constructed of metal of a thickness not less than that specified in subparagraph (3) of this paragraph.

(l) Boring and mortising machines.

(1) Safety-bit chucks with no projecting set screws shall be used.

(2) Boring bits should be provided with a guard that will enclose all portions of the bit and chuck above the material being worked.

(3) The top of the cutting chain and driving mechanism shall be enclosed.

(4) If there is a counterweight, one of the following or equivalent means shall be used to prevent its dropping:

(i) It shall be bolted to the bar by means of a bolt passing through both bar and counterweight;

(ii) A bolt shall be put through the extreme end of the bar;

(iii) Where the counterweight does not encircle the bar, a safety chain shall be attached to it;

(iv) Other types of counterweights shall be suspended by chain or wire rope and shall travel in a pipe or other suitable enclosure wherever they might fall and cause injury.

(5) Universal joints on spindles of boring machines shall be completely enclosed in such a way as to prevent accidental contact by the operator.

(6) Each operating treadle shall be covered by an inverted U-shaped metal guard, fastened to the floor, and of adequate size to prevent accidental tripping.

(m) Wood shapers and similar equipment.

(1) The cutting heads of each wood shaper, hand-fed panel raiser, or other similar machine not automatically fed, shall be enclosed with a cage or adjustable guard so designed as to keep the operator's hand away from the cutting edge. The diameter of circular shaper guards shall be not less than the greatest diameter of the cutter. In no case shall a warning device of leather or other material attached to the spindle be acceptable.

(2) Cylindrical heads should be used whenever the nature of the work will permit.

(3) All double-spindle shapers shall be provided with a spindle starting and stopping device for each spindle.

(n) Planing, molding, sticking, and matching machines.

(1) Each planing, molding, sticking, and matching machine shall have all cutting heads, and saws if used, covered by a metal guard. If such guard is constructed of sheet metal, the material used shall be not less than 1/16 inch in thickness, and if cast iron is used, it shall be not less than three-sixteenths inch in thickness.

(2) Where an exhaust system is used, the guards shall form part or all of the exhaust hood and shall be constructed of metal of a thickness not less than that specified in subparagraph (1) of this paragraph.

(3) Feed rolls shall be guarded by a hood or suitable guard to prevent the hands of the operator from coming in contact with the in-running rolls at any point. The guard shall be fastened to the frame carrying the

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rolls so as to remain in adjustment for any thickness of stock.

(4) Surfacers or planers used in thicknessing multiple pieces of material simultaneously shall be provided with sectional infeed rolls having sufficient yield in the construction of the sections to provide feeding contact pressure on the stock, over the permissible range of variation in stock thickness specified or for which the machine is designed. In lieu of such yielding sectional rolls, suitable section kickback finger devices shall be provided at the infeed end.

(o) Profile and swing-head lathes and wood heel turning machine.

(1) Each profile and swing-head lathe shall have all cutting heads covered by a metal guard. If such a guard is constructed of sheet metal, the material used shall be not less than one-sixteenth inch in thickness; and if cast iron is used, it shall not be less than three-sixteenths inch in thickness.

(2) Cutting heads on wood-turning lathes, whether rotating or not, shall be covered as completely as possible by hoods or shields, which should be hinged to the machines so that they can be thrown back for making adjustments.

(3) Shoe last and spoke lathes, doweling machines, wood heel turning machines, and other automatic wood-turning lathes of the rotating knife type shall be equipped with hoods enclosing the cutter blades completely except at the contact points while the stock is being cut.

(4) Lathes used for turning long pieces of wood stock held only between the two centers shall be equipped with long curved guards extending over the tops of the lathes in order to prevent the work pieces from being thrown out of the machines if they should become loose.

(5) Where an exhaust system is used, the guard shall form part or all of the exhaust hood and shall be constructed of metal of a thickness not less than that specified in subparagraph (1) of this paragraph.

(p) Sanding machines.

(1) Feed rolls of self-feed sanding machines shall be protected with a semicylindrical guard to prevent the hands of the operator from coming in contact with the in-running rolls at any point. The guard shall be constructed of heavy material, preferably metal, and firmly secured to the frame carrying the rolls so as to remain in adjustment for any thickness of stock. The bottom of the guard should come down to within three-eighths inch of a plane formed by the bottom or contact face of the feed roll where it touches the stock.

(2) Each drum sanding machine shall have an exhaust hood, or other guard if no exhaust system is required, so arranged as to enclose the revolving drum, except for that portion of the drum above the table, if a table is used, which may be necessary and convenient for the application of the material to be finished.

(3) Each disk sanding machine shall have the exhaust hood, or other guard if no exhaust system is required, so arranged as to enclose the revolving disk, except for that portion of the disk above the table, if a table is used, which may be necessary for the application of the material to be finished.

(4) Belt sanding machines shall be provided with guards at each nip point where the sanding belt runs on to a pulley. These guards shall effectively prevent the hands or fingers of the operator from coming in contact with the nip points. The unused run of the sanding belt shall be guarded against accidental contact.

(q) Veneer cutters and wringers.

(1) Veneer slicer knives shall be guarded to prevent accidental contact with knife edge, at both front and rear.

(2) Veneer clippers shall have automatic feed or shall be provided with a guard which will make it impossible to place a finger or fingers under the knife while feeding or removing the stock.

Hazards of Sugar and Cocoa), NFPA 656—1959 (Standard for Dust Hazards in Spice Grinding Plants).

(ii) Magnetic separators shall be provided to reduce fire and explosion hazards.

(3) Cheese, fruit, and food cutters. These machines shall be protected in accordance with the requirements of subparagraph (1) of this paragraph.

(4) Jam, icing, and marshmallow beaters of horizontal tub type. Revoked

(5) Reversible dough brakes. Reversible brakes shall be provided with a guard or tripping mechanism on each side of the rolls. These guards shall be so arranged as to stop the machine or reverse the direction of the rolls so that they are outrunning if the guard is moved by contact of the operator.

(6) Cross-roll brakes. Cross-roll brakes shall be provided with guards that are similar in number and equal in effectiveness to guards on hand-fed brakes.

(7) Box- and roll-type dough sheeters.

(i) Revoked

(ii) Hoppers for sheeters shall have an automatic stop bar or automatic stopping device along the back edge of the hopper. If construction does not permit location at the back edge, the automatic stop bar or automatic stopping device shall be located where it will be most effective to accomplish the desired protection.

(8) Cutting and panning, embossing, peeling, bar, and frutana machines. Revoked

(9) Rotary, die machines, pretzel rolling, and pretzel-stick extruding machines. Dough hoppers shall have the entire opening protected with substantial grid-type guards to prevent the employee from getting his hands caught in moving parts, or the hopper shall be extended high enough so that the operator's hands cannot get into moving parts.

(10) Band ovens. Revoked

(11) Wafer-cutting machines. Revoked

(12) Pan cooling towers.

(i) Where pan cooling towers extend to two or more floors, a lockout switch shall be provided on each floor in order that mechanics working on the tower may positively lock the mechanism against starting. Only one start switch shall be used in the motor control circuit.

(13) Chocolate melting, refining, and mixing kettles. Each kettle shall be provided with a cover to enclose the top of the kettle. The bottom outlet of each kettle shall be of such size and shape that the operator cannot reach in to touch the revolving paddle or come in contact with the shear point between the paddle and the side of the kettle.

(14) Caddie, cover, and box stitchers

Revoked

(15) Carton-wrapping and bundling machines.

Revoked

(16) Carton and lining feeding machines. Revoked

(17) Peanut cooling trucks. Mechanically operated peanut cooling trucks shall have a grid-type cover over the entire top.

(l) Ovens.

(1) General location.

(i) thru (vi) Revoked

(vii) Ovens shall be located so that possible fire or explosion will not expose groups of persons to possible injury. For this reason ovens shall not adjoin lockers, lunch or sales rooms, main passageways, or exits.

(2) Recommended construction. Revoked

(3) Safeguards of mechanical parts.

(i) Emergency stop buttons shall be provided on mechanical ovens near the point where operators are stationed.

(ii) All piping at ovens shall be tested to be gastight.

(iii) Main shutoff valves, operable separately from any automatic valve, shall be provided to permit turning off the fuel or steam in case of an emergency.

(a) Main shutoff valves shall be located so that explosions, fires, etc. will not prevent access to these valves.

(b) Main shutoff valves shall be locked in the closed position when men must enter the oven or when the oven is not in service.

(4) thru (7). Revoked

(8) Electrical heating equipment.

(i) Revoked

(ii) Revoked

(iii) A main disconnect switch or circuit breaker shall be provided. This switch or circuit breaker shall be so located that it can be reached quickly and safely. The main switch or circuit breaker shall have provisions for locking it in the open position if any work on the electrical equipment or inside the oven must be performed.

(9) General requirements.

(i) Protecting devices shall be properly maintained and kept in working order.

(ii) All safety devices on ovens shall be inspected at intervals of not less than twice a month by an especially appointed, properly instructed bakery employee, and not less than once a year by representatives of the oven manufacturers.

(iii)

(a) Protection of gas pilot lights shall be provided when it is impracticable to protect the main flame of the burner and where the pilot flame cannot contact the flame electrode without being in the path of the main flame of the burner. Failure of any gas pilot shall automatically shut off the fuel supply to the burner.

(b) Ovens with multiple burners shall be equipped with individual atmospheric pilot lights where there is sufficient secondary air in the baking chamber and where gas is available; or else each burner shall be equipped with an electric spark type ignition device.

(iv) Burners of a capacity exceeding 150,000 B.t.u. per hour equipped with electric ignition shall be protected in addition by quick-acting combustion safeguards.

(a) The high-tension current for any electric spark-type ignition device shall originate in a power supply line which is interlocked with the fuel supply for the oven in such a way that in case of current failure both the source of electricity to the high-tension circuits and the fuel supply shall be turned off simultaneously.

(b) Revoked

(c) Combustion safeguards used in connection with electric ignition systems on ovens shall be so designed as to prevent an explosive mixture from accumulating inside the oven before ignition has taken place.

(v) When fuel is supplied and used at line pressure, safety shutoff valves shall be provided in the fuel line leading to the burner.

(a) When fuel is supplied in excess of line pressure, safety shutoff valves shall be provided in the fuel line leading to the burners, unless the fuel supply lines are equipped with other automatic

valves which will prevent the flow of fuel when the compressing equipment is stopped.

(b) The safety shutoff valve shall be positively tight and shall be tested at least twice monthly.

(c) and (d) Revoked

(e) A safety shutoff valve shall require manual operation for reopening after it has closed, or the electric circuit shall be so arranged that it will require a manual operation for reopening the safety shutoff valve.

(f) Manual reset-type safety shutoff valves shall be so arranged that they cannot be locked in an open position by external means.

(g) Where blowers are used for supplying the air for combustion the safety shutoff valve shall be interlocked so that it will close in case of air failure.

(h) Where gas or electric ignition is used, the safety shutoff valve shall close in case of ignition failure. On burners equipped with combustion safeguards, the valve shall close in case of burner flame failure.

(vi) One main, manually operated, fuel shutoff valve shall be provided on each oven, and shall be located ahead of all other valves in the system.

(vii) All individual gas or oil burners with a heating capacity over 150,000 B.t.u. per hour shall be protected by a safeguard which is actuated by the flame and which will react to flame failure in a time interval not to exceed 2 seconds. All safeguards, once having shut down a gas or oil burner, shall require manual resetting and starting of the burner or burners.

(viii) Any space in an oven (except direct fired ovens) which could be filled with an explosive mixture shall be protected by explosion vents. Explosion vents shall be made of minimum weight consistent with adequate insulation.

(a) Explosion doors which have a substantial weight shall be attached by chains or similar means to prevent flying parts from injuring the personnel in case of an explosion.

(b) Where explosion vents are so located that flying parts or gases might endanger the personnel working on or near the oven, internal or external protecting means shall be provided in the form of heavily constructed shields or deflectors made from noncombustible material.

(c) Specifically exempted from the provisions of subdivision (viii) of this subparagraph are heating systems on ovens in which the fuel is admitted only to enclosed spaces which shall have been tested to prove that their construction will resist repeated explosions without deformation are exempt from the requirements of subdivisions (viii) (a) and (b) of this paragraph.

(ix) **Flues and dampers.** Revoked

(x) Revoked

(xi) Where the gas supply pressure is substantially higher than that at which the burners of an oven are designed to operate, a gas pressure regulator shall be employed.

(a) Revoked

(b) Revoked

(c) Revoked.

(d) A relief valve shall be placed on the outlet side of gas pressure regulators where gas is supplied at high pressure. The discharge from this valve shall be piped to the outside of the building.

(10) **Direct-fired ovens.**

(i) Direct-fired ovens shall be safeguarded against failure of fuel, air, or ignition.

(ii) To prevent the possible accumulation of explosive gases from being ignited after a shutdown, all direct-fired ovens with a heating capacity over 150,000 B.t.u. per hour shall be ventilated before the ignition system, combustion air blower, and the fuel can be turned on. The preventilation shall insure at least four complete changes of atmosphere in the baking chamber by discharging the oven atmosphere to the outside of the building and entraining fresh air into it. The preventilation shall be repeated whenever the heating equipment is shut down by a safety device.

(11) Direct recirculating ovens.

(i) Each circulating fan in direct recirculating ovens shall be interconnected with the burner in such a manner that the fuel is shut off by a safety valve when the fan is not running.

(ii) The flame of the burner or burners in direct recirculating ovens shall be protected by a quick-acting flame-sensitive safeguard which will automatically shut off the fuel supply in case of burner failure.

(12) Flue-type ovens. Revoked

(13) Indirect-fired multiple burner ovens. Revoked

(14) Steam-tube ovens. Revoked

(15) Indirect recirculating ovens.

(i) Revoked

(ii) Revoked

(iii) Duct systems (in ovens) operating under pressure shall be tested for tightness in the initial starting of the oven and also at intervals not farther apart than 6 months.

1910.264—LAUNDRY MACHINERY AND OPERATIONS

(a) Definitions applicable to this section.

Revoked

(b) General requirements.

This section applies to moving parts of equipment used in laundries and to conditions peculiar to this industry, with special reference to the point of operation of laundry machines. This section does not apply to dry-cleaning operations.

(c) Point-of-operation guards.

(1) Washroom machines.

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(i) Marking machine. Revoked

(ii) Washing machine.

(a) Revoked

(b) Each washing machine shall be provided with means for holding open the doors or covers of inner and outer cylinders or shells while being loaded or unloaded.

(iii) Extractor. Revoked

(2) Starching and drying machines.

(i) Starching machine (cylinder or box type).

Revoked

(ii) Drying-room fan. Revoked.

(iii) Drying tumbler.

(a) Revoked

PART 1910

OCCUPATIONAL SAFETY AND HEALTH STANDARDS

SUBPART Z—TOXIC AND HAZARDOUS SUBSTANCES

1910.1000 Air Contaminants.
1910.1001 Asbestos.
1910.1002 Coal tar pitch volatiles; interpretation of term.
1910.1003 4-Nitrobiphenyl.
1910.1004 alpha-Naphthylamine.
1910.1005 4, 4'-Methylene bis(2-chloroaniline).
1910.1006 Methyl chloromethyl ether
1910.1007 3, 3'-Dichlorobenzine (and its salts)
1910.1008 bis-Chloromethyl ether.
1910.1009 beta-Naphthylamine.
1910.1010 Benzidine.
1910.1011 4-Aminodiphenyl.
1910.1012 Ethyleneimine.
1910.1013 beta-Propiolactone.
1910.1014 2-Acetylaminofluorene.
1910.1015 4-Dimethylaminoazobenzine.
1910.1016 N-Nitrosodimethylamine.
1910.1017 Vinyl Chloride.
1910.1018 Inorganic arsenic.
1910.1025 Lead.
1910.1028 Removed
1910.1029 Coke Oven Emissions
1910.1043 Cotton dust.
1910.1044 1,2 - dibromo - 3 - chloropropane.
1910.1045 Acrylonitrile.
1910.1046 Removed

SUBPART Z—TOXIC AND HAZARDOUS SUBSTANCES

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1910.1000—AIR CONTAMINANTS

An employee's exposure to any material listed in table Z–1, Z–2, or Z–3 of this section shall be limited in accordance with the requirements of the following paragraphs of this section.

(a) Table Z–1:

(1) Materials with names preceded by "C"—ceiling values. An employee's exposure to any material in table Z–1, the name of which is preceded by a "C" (e.g., C Boron triflouride), shall at no time exceed the ceiling value given for that material in the table.

(2) Other materials—8-hour time weighted averages. An employee's exposure to any material in table Z–1, the name of which is not preceded by "C", in any 8-hour work shift of a 40-hour work week, shall not exceed the 8-hour time weighted average given for that material in the table.

TABLE Z–1

Substance	p.p.m.[a]	mg./M³ [b]
Acetaldehyde	200	360
Acetic acid	10	25
Acetic anhydride	5	20
Acetone	1,000	2,400
Acetonitrile	40	70
Acetylene dichloride, see 1, 2-Dichloroethylene		
Acetylene tetrabromide	1	14
Acrolein	0.1	0.25
Acrylamide—Skin		0.3
Aldrin—Skin		0.25
Allyl alcohol—Skin	2	5
Allyl chloride	1	3
C Allyl glycidyl ether (AGE)	10	45
Allyl propyl disulfide	2	12
2-Aminoethanol, see Ethanolamine		
2-Aminopyridine	0.5	2
Ammonia	50	35
Ammonium sulfamate (Ammate)		15
n-Amyl acetate	100	525
sec-Amyl acetate	125	650
Aniline—Skin	5	19
Anisidine (o, p-isomers)—Skin		0.5
Antimony and compounds (as Sb)		0.5
ANTU (alpha naphthyl thiourea)		0.3

See footnotes at end of table.

TABLE Z–1—Continued

Substance	p.p.m.[a]	mg./M³ [b]
Arsine	0.05	0.2
Azinphos-methyl—Skin		0.2
Barium (soluble compounds)		0.5
p-Benzoquinone, see Quinone		
Benzoyl peroxide		5
Benzyl chloride	1	5
Biphenyl, see Diphenyl		
Boron oxide		15
C Boron trifluoride	1	3
Bromine	0.1	0.7
Bromoform—Skin	0.5	5
Butadiene (1, 3-butadiene)	1,000	2,200
Butanethiol, see Butyl mercaptan		
2-Butanone	200	590
2-Butoxy ethanol (Butyl Cellosolve)—Skin	50	240
Butyl acetate (n-butyl acetate)	150	710
sec-Butyl acetate	200	950
tert-Butyl acetate	200	950
Butyl alcohol	100	300
sec-Butyl alcohol	150	450
tert-Butyl alcohol	100	300
C Butylamine—Skin	5	15
C tert-Butyl chromate (as CrO_3)—Skin		0.1
n-Butyl glycidyl ether (BGE)	50	270
Butyl mercaptan	10	35
p-tert-Butyltoluene	10	60
Calcium oxide		5
Camphor		2
Carbaryl (Sevin ®)		5
Carbon black		3.5
Carbon dioxide	5,000	9,000
Carbon monoxide	50	55
Chlordane—Skin		0.5
Chlorinated camphene—Skin		0.5
Chlorinated diphenyl oxide		0.5
C Chlorine	1	3
Chlorine dioxide	0.1	0.3
C Chlorine trifluoride	0.1	0.4
C Chloroacetaldehyde	1	3
α-Chloroacetophenone (phenacylchloride)	0.05	0.3
Chlorobenzene (monochlorobenzene)	75	350
o-Chlorobenzylidene malononitrile (OCBM)	0.05	0.4
Chlorobromomethane	200	1,050
2-Chloro-1,3-butadiene, see Chloroprene		
Chlorodiphenyl (42 percent Chlorine)—Skin		1
Chlorodiphenyl (54 percent Chlorine)—Skin		0.5
1-Chloro,2,3-epoxypropane, see Epichlorhydrin		
2-Chloroethanol, see Ethylene chlorohydrin		

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1910.1028 BENZENE

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[46 F.R. 32022, June 19, 1981]

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Page 790.2.1 thru 790.2.2 and

790.3 thru 790.14 deleted

1910.1046—EXPOSURE TO COTTON DUST IN COTTON GINS

Removed

[46 F.R. 32022, June 19, 1981]

Pages 806.17 thru 806.40 Deleted

1910.1499—SOURCE OF STANDARDS

Section 1910.1000 . .41CFR 50-204.50, except for Table Z-2, the source of which is American National Standards Institute, Z37 series.

1910.1500—STANDARDS ORGANIZATIONS

Specific standards of the following organizations have been referred to in this subpart. Copies of the standards may be obtained from the issuing organization.

American Conference of Governmental
Industrial Hygienists
1014 Broadway
Cincinnati, Ohio 45202

American National Standards Institute
1430 Broadway
New York, New York 10018

PART 1928

OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR AGRICULTURE

SUBPART A—GENERAL

1928.1 Purpose and scope.

SUBPART B—APPLICABILITY OF STANDARDS

1928.21 Applicable standards in 29 CFR Part 1910.

SUBPART C—ROLL-OVER PROTECTIVE STRUCTURES

1928.51 Roll-over protective structures (ROPS) for tractors, used in agricultural operations.
1928.52 Protective frames for wheel type agricultural tractors-test procedures and performance requirements.
1928.53 Protective enclosures for wheel type agricultural tractors-test procedures and performance requirements.

SUBPART D—SAFETY FOR AGRICULTURAL EQUIPMENT

1928.57 Guarding of farm field equipment, farmstead equipment, and cotton gins.

SUBPART I—TOXIC AND HAZARDOUS SUBSTANCES

1928.113 Removed

AUTHORITY: Sec. 6(b), Pub L. 91-596, 84 Stat. 1593 (29 U.S.C. 655), Secretary of Labor's Order No. 12-71, 36 FR 8754.

SOURCE: The provisions of this part 1928 appear at 40 F.R. 18254, April 25, 1975, unless otherwise noted.

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SUBPART A—GENERAL

1928.1—PURPOSE AND SCOPE

This part contains occupational safety and health standards applicable to agricultural operations.

SUBPART B—APPLICABILITY OF STANDARDS

1928.21—APPLICABLE STANDARDS IN 29 CFR PART 1910

(a) The following standards in Part 1910 of this Chapter shall apply to agricultural operations:

(1) Temporary labor camps—§ 1910.142;

(2) Storage and handling of anhydrous ammonia—§ 1910.111(a) and (b);

(3) Pulpwood logging—§ 1910.266;

(4) Slow-moving vehicles—§ 1910.145.

(b) Except to the extent specified in paragraph-(a) of this section, the standards contained in Subparts B through T and Subpart Z of Part 1910 of this title do not apply to agricultural operations.

[42 F.R. 38569, July 29, 1977.]

SUBPART C—ROLL-OVER PROTECTIVE STRUCTURE

1928.51—ROLL-OVER PROTECTIVE STRUCTURES (ROPS) FOR TRACTORS USED IN AGRICULTURAL OPERATIONS

(a) Definitions. As used in this subpart—

"Agricultural tractor" means a two- or four-wheel drive type vehicle, or track vehicle, of more than 20 engine horsepower, designed to furnish the power to pull, carry, propel, or drive implements that are designed for agriculture. All self-propelled implements are excluded.

"Low profile tractor" means a wheeled tractor possessing the following characteristics:

(1) The front wheel spacing is equal to the rear wheel spacing, as measured from the centerline of each right wheel to the centerline of the corresponding left wheel.

(2) The clearance from the bottom of the tractor chassis to the ground does not exceed 18 inches.

(3) The highest point of the hood does not exceed 60 inches, and

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SUBPART I—TOXIC AND HAZARDOUS SUBSTANCES

1928.113—EXPOSURE TO COTTON DUST IN COTTON GINS

Removed

[46 F.R. 32022, June 19, 1981]

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Appendix C

INTERPRETATIONS

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meet the breathing requirements of the diver and to dilute or flush from the masks and helmets the diver's expelled air. The specifications are based on recommendations of the National Institute of Occupational Safety and Health (NIOSH) and the U.S. Coast Guard. This section is intended to guide the design and selection of masks and helmets, not to serve as a basis for routine operational tests or field verification. Although this section does not require the employer to perform any particular test on helmets and masks, it does require that the appropriate ventilation rate be maintained throughout operational use. Citations shall be issued under this section only after a check with the OSHA National Office of Compliance Programming.

(11) 29 CFR 1910.430(i)(2)—The intent of this section on "oxygen cleaning" is to make sure that certain equipment must be cleaned internally of flammable materials before initially being placed into oxygen service. Similarly, whenever new or replacement components are added, they shall also be cleaned before being connected into the system.

s. 29 CFR 1910.440 Recordkeeping requirements.

(1) 29 CFR 1910.440(a)(1)—The 48-hour time period for reporting fatality and hospitalization (five or more) cases is the maximum time allowed by 29 CFR 1904.8. Employers should be encouraged to report such cases as soon as possible after the occurrence.

(2) 29 CFR 1910.440(a)(2)—The CSHO shall examine the employer's record of diving-related injuries and illnesses which result in the hospitalization for 24 hours or more of any dive team member. These incidents do not have to be *reported* (unless five or more hospitalizations are involved) but the record must be made available to OSHA on request. Frequency of injuries and illnesses may be an indication of improper planning or dive procedures.

(3) 29 CFR 1910.440(b)(1)—This section gives the CSHO the authority to inspect and copy any record required by this standard.

(4) 29 CFR 1910.440(b)(2)—In order to protect employee privacy, it is intended that authorized representatives of employees obtain the specific consent of employees involved prior to receiving individual medical records. OSHA's policy in regards to the medical records is to prevent any misuse of such information that may be available through any requirement of this recordkeeping standard.

(5) 29 CFR 1910.440(b)(4)—This requirement is to provide a mechanism for extended retention of certain records that are important for long-range epidemiological studies. The transfer of these records to NIOSH after the 5-year retention period is intended to relieve the employer of the burden of keeping the records beyond the 5-year period. However, if the employer has an adequate storage and retains the records beyond the 5-year period, no citation shall be issued, provided the records are available for inspection and copying by either OSHA or NIOSH. Such action by the employer shall be considered de minimis.

t. Relationship with the other Federal agencies/transportation to site.

(1) In general, OSHA Area Directors should coordinate inspection activities with local U.S. Coast Guard counterparts in a manner which seeks both to minimize the duplication of agency resources and maximize the protection of affected workers.

(2) Consistent with considerations of operational efficiency and the safety of agency personnel, transportation necessary to the conduct of offshore inspections shall be secured in accordance with the following priority:

(a) Appropriate Federal agency, on an "as available" basis.

(b) Private contractor.

(c) Employer supplied.

(3) Consistent with existing rules and regulations, accident investigation reports, statistical data, and other pertinent enforcement related information should be freely exchanged between other agencies at the local level.

INTERPRETATIONS

OSHA INSTRUCTION
STD 1–23.3
4/19/79

SUBJECT: 1910.1046
Cancelled

INTERPRETATIONS

OSHA INSTRUCTION
STD 1–23.4
8/22/80

SUBJECT: OSHA Medical Surveillance Regulations—Genetic Testing

Purpose. This instruction provides an interpretation of OSHA health standards that require medical surveillance programs specifying a medical history with family and occupational background, including genetic and environmental factors.

Standards Affected. This interpretation applies to all OSHA standards that require a medical surveillance program in which the medical examination shall include a personal history of the employee and/or his family and occupational background, including genetic and environmental factors. These standards are:

1. The 13 carcinogen standards; specifically, paragraph (g)(1)(i) in each of the standards in the series 29 CFR 1910.1003 through 1910.1016.

2. The OSHA Cancer Policy, 29 CFR 1990.151, "model standard."

Background. In February 1980, the New York *Times* published a series of articles on genetic testing. The fourth and final installment of the series did not accurately describe OSHA policies on this issue. An OSHA press release, USDL 80–107 dated February 20, 1980, clarified OSHA's policy. This instruction provides official guidance to OSHA Field Offices on this policy.

Interpretation. The provisions of the standards named in E. of this instruction shall be interpreted as follows:

1. These provisions do not require genetic testing of any employee.

2. The taking of an employee's medical history, including past medical history, a family history, (e.g., inheritable disorders) and an occupational history, shall be considered as a routine part of standard medical practice, and is designed to identify factors important to the employee's general health status.

3. These provisions do not require the exclusion of otherwise qualified employees from jobs on the basis of genetic testing.

OSHA INSTRUCTION
STD 1–24.1
2/2/79

SUBJECT: 1910.20

Purpose. This instruction establishes policy for inspection and compliance procedures and presents interpretations of the Preservation of Employee Exposure and Medical Records—Preservation of records, published in the Federal Register July 19, 1978, interim final rule effective July 19, 1978.

Action.

1. Inspection procedures.

a. Establishing existence of records. As part of the general inspection procedures (outlined in Chapter V, Part D of the FOM, and Chapter I of the IHFOM) the compliance officer shall establish whether employee exposure records or medical records exist. If an employer indicates that no such records exist, the compliance officer should verify this by interviewing several employees or employee representatives as to whether monitoring or medical examinations have been performed.

b. Examination of records. The compliance officer shall examine briefly all records for pertinent information that may assist in the inspection and evaluation of the employer's health program. The compliance officer shall record information pertaining to the records as outlined in the FOM, Chapter XII, on the Narrative, OSHA-1A Form, and, if necessary, on the Worksheet, OSHA-1B Form.

c. Acess denied. If employee exposure and/or medical records exist and an employer intentionally and knowingly refuses to make the covered records available under the provisions of 29